```
    write(‘ 50s: ‘);
    for count := 1 to num50s do
      write(‘*’);
    writeln;

    write(‘ 40s: ‘);
    for count := 1 to num40s do
      write(‘*’);
    writeln;

    write(‘ 30s: ‘);
    for count := 1 to num30s do
      write(‘*’);
    writeln;

    write(‘ 20s: ‘);
    for count := 1 to num20s do
      write(‘*’);
    writeln;

    write(‘ 10s: ‘);
    for count := 1 to num10s do
      write(‘*’);
    writeln;

    write(‘  1s: ‘);
    for count := 1 to num1s do
      write(‘*’);
    writeln;
end.
```

```
    else if score >= 60 then
      num60s := num60s + 1
    else if score >= 50 then
      num50s := num50s + 1
    else if score >= 40 then
      num40s := num40s + 1
    else if score >= 30 then
      num30s := num30s + 1
    else if score >= 20 then
      num20s := num20s + 1
    else if score >= 10 then
      num10s := num10s + 1
    else
      num1s := num1s + 1;

    { Read another score }

    writeln(‘Enter a score (-1 to print histogram):’);
    readln(score);
  end;

 { Display score histogram }

 writeln;
 writeln(‘Score Histogram:’);

 { Display bar of asterisks corresponding to the number of 100s }

 write(‘100s: ’);
 for count := 1 to num100s do
   write(‘*’);
 writeln;
```

Print a bar with one * for each score that is 100.

```
 { Display bar of asterisks corresponding to the number of 90s }

 write(‘ 90s: ’);
 for count := 1 to num90s do
   write(‘*’);
 writeln;
```

Print a bar with one * for each score that in the 90s.

```
 write(‘ 80s: ’);
 for count := 1 to num80s do
   write(‘*’);
 writeln;

 write(‘ 70s: ’);
 for count := 1 to num70s do
   write(‘*’);
 writeln;

 write(‘ 60s: ’);
 for count := 1 to num60s do
   write(‘*’);
 writeln;
```

```
program score_hist;

{
  This program accepts scores entered by the user until a negative score
  is entered.  All scores are assumed to be in the range 0...100.  It
  keeps track of how many scores are in the 100s, 90s, ..., 10s, and 1s.
  When the user signals “no more scores” by entering a negative score,
  then a histogram of asterisks (*) displays how many entered scores were
  in each range, e.g., 100s, 90s, ...
}
```

Program
Description

```
var
  {
    These counters are used to keep track of how many scores
    were entered in each range.
  }
  num100s, num90s, num80s, num70s, num60s,
  num50s, num40s, num30s, num20s, num10s, num1s : integer;
```

Counter
Variables

```
  score : integer;  { Used to read in a score }

  count : integer;

begin
  { Initialize counts }
  num100s := 0;
  num90s  := 0;
  num80s  := 0;
  num70s  := 0;
  num60s  := 0;
  num50s  := 0;
  num40s  := 0;
  num30s  := 0;
  num20s  := 0;
  num10s  := 0;
  num1s   := 0;
```

Initialize the counters to 0.

```
  { Initial read of a score }

  writeln(‘Enter a score (-1 to print histogram):’);
  readln(score);

  while score >= 0 do
    begin
      { Determine which counter to increment }

      if score = 100 then
        num100s := num100s + 1
      else if score >= 90 then
        num90s := num90s + 1
      else if score >= 80 then
        num80s := num80s + 1
      else if score >= 70 then
        num70s := num70s + 1
```

Determine what range score is
in and then increment the
appropriate counter.